

Application No. 10/712,016
Reply to Office Action mailed on June 29, 2006

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Remarks/Arguments

Claims 1-19 remain in the application. Claims 3, 15, and 16 are currently amended.

Telephone Interview Summary

Applicant wishes to thank the Examiner for conducting the telephone interview of September 12, 2006. A complete and proper recollection of the substance of the telephone interview is provided, as follows:

- a) No exhibits were shown nor was any demonstration conducted.
- b) Claims 1 and 15 were discussed.
- c) The cited references already made of record, US Patent 5,052,879 in the name of Wolfe, and US Patent 4,573,854 in the name of McFarland were discussed during the telephone interview.
- d) Regarding the Examiner's rejection of claims 1 and 15 for being unpatentable over Wolfe in view of McFarland, Applicant argued that the teachings of Wolfe and McFarland cannot be combined. Firstly, Applicant argued that it is impossible to modify the teachings of Wolfe with the gear mechanism attachment points of McFarland in order to pivot the lift platform of Wolfe into a storage position, since this combination provides only rotational movement of Wolfe's lift platform with the consequence that only flat objects such as a collapsed wheelchair can be moved into the vehicle. Secondly, Applicant argued that it is impossible to modify the teachings of Wolfe with the loading location of McFarland for loading through a rear door opening of vehicles having a rear bumper, since it is not practical to modify the rear of the vehicle for installing Wolfe's lift system or it is not practical to design Wolfe's lift system to be able to clear the rear bumper when installed on an existing vehicle floor.

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- e) Since no agreement could be reached, Applicant stated that he will file a Declaration Under 37 CFR 1.132 supporting his arguments.
- f) No other pertinent matters were discussed.

Re: Item I - Request for Continued Examination

The Examiner stated that the finality of the previous Office Action has been withdrawn pursuant to 37 CFR 1.114, and that Applicant's submission filed on March 13, 2006 has been entered.

Re: Item II - Specification

The Examiner stated that the listing of references in the specification is not a proper information disclosure statement.

Applicant respectfully submits that the references listed - in the background of the invention - merely describe background art considered not to be material to the invention as disclosed and claimed. As summarized in the specification, these references teach: hoists or cranes; ramp systems; and a lift arm, i.e. these references do not teach anything similar to the invention as disclosed and claimed.

Applicant kindly requests the Examiner to reconsider and to call the Applicant if he thinks that these references should be provided in an Information Disclosure Statement.

Re: Item III - Claim Objections

Applicant has amended claims 15 and 16 as suggested by the Examiner.

No new subject matter has been added.

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Re: Item IV - Claim Rejections - 35 USC § 112

Claims 3-5, and 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Applicant has amended claim 3 to replace the phrase "*acting in response to*" objected to by the Examiner with "*driven by*". Applicant respectfully submits that amended claim 3 clearly points out and distinctly claims the subject matter regarded as the invention. In particular, claim 3 now clearly defines the feature of: "*the left hand side gear mechanism and the right hand side gear mechanism are driven by the movement of the extension unit.*"

Applicant respectfully submits that claims 4, 5, and 12-14 each depend on amended claim 3 believed allowable and, therefore, are also allowable.

No new subject matter has been added.

Re: Item V - Claim Rejections - 35 USC § 103

Claims 1-11, and 15-17 are rejected under 35 U.S.C 103(a) as being unpatentable over Wolfe (US 5,052,879) in view of McFarland (US 4,573,854).

Having regard to claim 1, Applicant discloses and claims an inside vehicle lift for transferring a load through a rear door opening of a vehicle comprising the features of (emphasis added):

a load platform for receiving the load, the load platform being horizontally movable between a loading position with the load platform being disposed behind a rear bumper of the vehicle and a transport position inside the vehicle;

a base for being attached inside the vehicle to a vehicle floor such that rear end of the base is located in proximity to the rear door opening;

a lift unit comprising a lift support base and a left hand side and a right hand side lift actuator, the lift support base for supporting the load

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platform when disposed outside the vehicle, the lift support base being mechanically connected at a left hand side and at a right hand side to the left hand side lift actuator and the right hand side lift actuator, respectively, such that the lift support base is oriented substantially perpendicular to a longitudinal axis of each of the left and the right hand side lift actuator, the lift actuators for moving the lift support base with the load platform substantially straight in a substantially vertical direction between a first vertical position with the load platform being in close proximity to ground and a second vertical position suitable for horizontally moving the load platform into the vehicle; and,

a left hand side gear mechanism movably attached to a left hand side of the base and the left hand side lift actuator and a right hand side gear mechanism movably attached to a right hand side of the base and the right hand side lift actuator, respectively, the left hand side gear mechanism and the right hand side gear mechanism for providing translational and rotational movement of the lift unit through the rear door opening of the vehicle between a first position inside the vehicle with the lift support base being disposed in proximity to the rear door opening and oriented substantially vertical and a second position outside the vehicle with the lift support base and the lift actuators being disposed behind the rear bumper and the lift support base oriented substantially horizontal.

For the sake of clarity, Applicant respectfully submits that claim 1 defines an inside vehicle lift *"for transferring a load through a rear door opening of a vehicle"* with *"the load platform being disposed behind a rear bumper of the vehicle"*, limiting employment of the claimed invention to vehicles having a rear door opening and a rear bumper, such as, for example, Minivans, Full-Size Vans, SUVs, and Pickup Trucks. Thus, transport trucks are excluded from consideration.

Cited reference McFarland teaches an apparatus for loading a wheelchair through the rear door opening of a vehicle. As shown in Figs. 1 to 4, a pair of motor-driven drive links 36 and a pair of drag links 38 are utilized to lift and rotate a chair rack 40, together with a collapsed wheelchair mounted thereon, into the vehicle's rear compartment. The

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drive links 36 and drag links 38 connect the rack 40 to carriage 30 which is rolled from a rearward position to a forward position for storage of the rack 40 and the collapsed wheelchair inside the rear compartment of the vehicle. The lengths of drive links 36 and the drag links 38 is adjustable to allow for variations in vehicles in which the apparatus is mounted but are of fixed length during operation.

Cited reference Wolfe teaches a wheelchair lift and transfer system for use with a vehicle, which is designed to enable a person in a wheelchair to independently enter a vehicle and drive from his/her wheelchair without leaving the wheelchair platform. As shown, for example, in Fig. 5, the wheelchair lift comprises two lift cylinders 5, which are - at an upper end thereof - pivotally movable attached to a door frame of the vehicle's body shell. Attached to piston rods 26 of the lift cylinders 5 is a lift frame 6 for supporting a lift platform 7 when disposed outside the vehicle. Attached to a lower end of each lift cylinder 5 is a horizontally oriented swing cylinder 14, which is, at an opposite end, pivotally movable attached to the vehicle floor. For loading, the lift cylinders 5 are swung out using the swing cylinders 14, while the piston rods 26 are hydraulically moved such that the lift frame 6 touches the ground 36, as shown in Fig. 11. The piston rods 26 are then hydraulically retracted until the lift frame 6 is level with the vehicle floor for transferring the lift platform 7 from the same to the vehicle floor.

Having regard to the Examiner's statement that it would have been obvious to one of skill in the art to modify Wolfe with the left and right gear mechanism attachment points of McFarland in order to stably pivot the platform into a storage position, Applicant strongly disagrees.

As shown in Figs. 1 to 5 of cited reference Wolfe, the lift platform 7 is always oriented substantially horizontally, i.e. during loading, lifting, transferring into the vehicle, and storage inside the vehicle. On the other hand, the pairs of drive links 36 and drag links 38 taught in cited reference McFarland only allow rotational movement dictated by the same, as shown in Figs. 1 to 4, and correctly stated by the Examiner: "*to stably pivot the platform...*". According to McFarland's teachings, the rack 40 is oriented substantially

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vertical when disposed outside the vehicle and forms an acute angle with the horizontal when disposed inside the vehicle. As a result, a load disposed on Wolfe's lift platform 7 being stably pivoted using McFarland's left and right gear mechanism attachment points - the pairs of drive links 36 and drag links 38 - experiences a substantial change of its orientation, not only during the loading process, but also a change of its orientation of approximately 80° between loading and storage, which is highly undesirable in almost all loading applications. Furthermore, in order to be able to clear the upper end of the rear door opening and the roof of the vehicle, only relatively flat objects - such as a collapsed wheelchair - can be loaded, as is evident from Fig. 2 in cited reference McFarland.

Therefore, Applicant respectfully submits that the teachings of Wolfe and McFarland cannot be combined as stated by the Examiner, i.e. Wolfe's lift platform 7 cannot be pivoted from a loading position to a storage position. Furthermore, if combined, it does not result in the inside vehicle lift as defined by the features of claim 1, i.e. *"the load platform being horizontally movable between a loading position with the load platform being disposed behind a rear bumper of the vehicle and a transport position inside the vehicle"*, as highlighted above.

Having regard to the Examiner's statement that it would have been obvious to one of skill in the art to modify Wolfe with the loading location of McFarland in order to accommodate vehicles more suited to rear loading, Applicant strongly disagrees.

As clearly illustrated in Fig. 5, installation of Wolfe's wheelchair lift requires a substantial lowering of the vehicle floor. Lowering of the vehicle floor is possible in the front of a vehicle, for example, for loading through a driver's door. However, lowering of the floor in the rear of a passenger vehicle not only requires a major re-design of the floor section of the vehicle's body shell, but also a major re-design of the vehicle's rear axle together with its suspension, and likely a relocation of the vehicle's gasoline tank. Furthermore, it is impossible to lower the vehicle floor in a rear-wheel driven or four-wheel driven vehicle because components of its rear axle powertrain, such as driveshaft and differential, cannot be redesigned to allow lowering of the rear floor.

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Considering the installation of Wolfe's wheelchair lift for transferring a load through an existing rear door opening and onto an existing rear floor of a vehicle having a rear bumper, the hydraulic cylinders 5 need to be pivotally movable mounted to the rear door opening frame structure of the vehicle's body shell - in close proximity to the roof in order to maximize the length available for the hydraulic cylinders 5 when disposed inside the vehicle. Affixing a lift system at this location is not an easy task. Firstly, in general, the body shell of a vehicle is weaker at this location - upper portion of the rear door - than at the driver's door frame below the window level, and likely needs to be reinforced. Secondly, special care has to be taken not to interfere with the hinges and/or lift mechanism of the rear door. Thirdly, more recent models have a rear light assembly extending well into the upper portion of the rear of the vehicle; therefore, special care has to be taken not to interfere with the same. Furthermore, considering average dimensions of various vehicles having a rear bumper, the technical difficulties and the complexity of the resulting lift system are such that one skilled in the art would not consider installation of Wolfe's wheelchair lift for transferring a load through an existing rear door opening and onto an existing rear floor of a vehicle having a rear bumper.

Therefore, Applicant respectfully submits that the teachings of Wolfe and McFarland cannot be combined as stated by the Examiner, i.e. Wolfe's wheelchair lift cannot be modified with the loading location taught by McFarland. Furthermore, if combined, it does not result in the inside vehicle lift as defined by the features of claim 1, i.e. *"the lift support base is oriented substantially perpendicular to a longitudinal axis of each of the left and the right hand side lift actuator"* and *"the lift actuators being disposed behind the rear bumper and the lift support base oriented substantially horizontal"*, as highlighted above. From these features of claim 1 follows the feature that the lift actuators are oriented substantially vertical when disposed behind the rear bumper. Modifying Wolfe's teachings with the loading location of McFarland results in the lift cylinders 5 being swung out such that they form a substantial angle to the vertical and that a substantial portion of their length is not disposed behind the rear bumper, therefore, they are NOT oriented substantially vertical and disposed behind the rear bumper.

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To support the above arguments, a Declaration Under 37 CFR 1.132, from an engineer, Juergen Fuchs, skilled in the art, is submitted herewith.

Applicant respectfully submits that the inside vehicle lift defined by the features of claim 1 is not obvious having regard to the teachings of Wolfe in view of McFarland.

Having regard to independent claim 15, Applicant respectfully submits that this claim defines a method corresponding to apparatus claim 1 and has been rejected for the same reasons; therefore, the above arguments apply here *mutatis mutandis*.

Applicant respectfully submits that claim 2 depends on a claim that is believed to be allowable and as such is also allowable.

Having regard to amended claim 3, Applicant respectfully submits that neither Wolfe nor McFarland teach anything similar to the feature of (emphasis added): "*wherein the left hand side gear mechanism and the right hand side gear mechanism are connected to a left hand side and a right hand side of the extension unit, respectively, and wherein the left hand side gear mechanism and the right hand side gear mechanism are driven by the movement of the extension unit.*" In particular, Wolfe teaches lift cylinders 5 attached to the door frame which are swung out using swing cylinders 14, while McFarland teaches motor driven pairs of drive links 36 and drag links 38 mounted to a carriage 30 which is rolled from a rearward position to a forward position.

Furthermore, claim 3 depends on a claim that is believed to be allowable and as such is also allowable.

Applicant respectfully submits that each of claims 4-11, 16, and 17 depend on a claim that is believed to be allowable and as such are also allowable.

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Re: Item VI - Allowable Subject Matter

Applicant wishes to thank the Examiner for indicating the allowability of claims 12-14 and 18-19 if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant respectfully submits that each of these claims depends on a claim believed allowable, but will reconsider.

Applicant respectfully submits that claims 12-14 each depend on claim 3, which has been amended to overcome the Examiner's rejection under 35 U.S.C. 112, second paragraph.

The evidence of persons of skill in the art, and the teaching of the cited references in this case support a determination of non-obviousness in view of the claims. Favorable reconsideration in this regard is earnestly requested.

A Petition for Extension of Time is filed concurrently with this response.

**Please charge any additional fees or credit any overpayment to Deposit
Account No. 50-1142.**

Respectfully submitted,



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